

REMARKS

Initially, Applicants would like to express appreciation to the Examiner for the detailed Official Action provided.

Upon entry of the above amendment, claim 3 will have been amended; and newly presented claim 15 will have been added. Accordingly, claims 3 and 12-15 are currently pending. Applicants respectfully request reconsideration of the outstanding rejection and allowance of claims 3 and 12-15 in the present application. Such action is respectfully requested and is now believed to be appropriate and proper.

Claims 3 and 12-14 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over BURGESS et al. (U.S. Patent Appl. Pub. No. 2003/0114853) in view of JACKSON et al. (U.S. Patent No. 5,716,355).

Although Applicants do not necessarily agree with the Examiner's rejection of claim 3 on this ground, nevertheless, Applicants have amended independent claim 3 to clearly obviate the above noted ground of rejection in order to expedite prosecution of the present application. In this regard, Applicants note that BURGESS et al. and JACKSON et al. fail to teach or suggest the subject matter claimed in amended claim 3. In particular, claim 3, as amended, sets forth a rod connector including, inter alia, a connector main body swingably attached to a shank; a rod supporting portion provided in the connector main body and configured for supporting a rod; and “a pressure fixing device for pressure fixing the rod to the rod supporting portion of the connector main body, wherein the rod supporting portion comprises convex portions at both ends of the rod supporting portion, said convex portions including a first convex portion comprising a sharp distal end provided at a first end only of

the rod supporting portion and configured to be embedded into the rod, and a second convex portion comprising a sharp distal end provided at a second end only of the rod supporting portion and configured to be embedded into the rod”.

This amendment is fully supported by the specification, including the claims and drawings, and no prohibited new matter has been added.

Applicants’ claimed invention includes a pressure fixing device to fix and support the rod 7. The pressure fixing device includes a pair of convex portions 25, 25. A first convex portion 25 includes a sharp distal end that is positioned at a first end only of the rod supporting portion. A second convex portion 25 includes a sharp distal end that is positioned at a second end only of the rod supporting portion. See particularly figures 3, 5A, and 5B. Each convex portion 25 extends in a smooth, continuous, sharp ridge along the circumferential direction of the rod supporting portion to eat into the rod. See particularly figure 3. Thus, the convex portions are positioned at the ends only of the rod supporting portion 9 and rod pressing portion so that there is a convex portion 25 having a sharp distal end provided in a projecting manner positioned at both ends of the rod supporting portion 9 and the rod pressing portion 13. Note that figure 5B shows an enlarged view of one of the convex portions 25 with the sharp distal end at an end of the rod supporting portion 9.

Therefore, the configuration of the rod supporting portion including the convex portions of Applicants’ claimed invention provides improvements in the art. For example, with Applicants’ claimed rod connector, when the rod 7 is firmly clamped and gripped by the rod supporting portion 9 and the rod pressing portion 13, and stress is concentrated at the ends of the rod supporting portion 9 and rod pressing portion 13 by the sharp distal end of the small convex portions 25, the distal ends of

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the convex portions 25 eat into the surface of the rod 7 so as to generate a scratch, and thus the supporting surfaces 9a, 13a of the rough surface is brought into contact with the rod 7. Therefore, the rod 7 is prevented from moving in the axial direction and the rod 7 is prevented from rotating around its own axis.

Accordingly, the rod connector of the present invention provides advantages and improvements over the prior art, as described above, including securely holding the rod by preventing axial movement and rotation of the rod 7.

The BURGESS et al. device includes a main body 76 swingably attached to a shank 68, a rod supporting portion for supporting a rod 12, and a pressure fixing device 34. As recognized by the Examiner, the BURGESS et al. patent fails to teach or suggest convex portions, with each convex portion comprising a sharp distal end to be embedded in the rod.

The JACKSON et al. patent is directed to a transverse connection for spinal rods. The Examiner takes the position that the JACKSON et al. device includes a plurality of convex portions (the teeth 44, 46) that comprise sharp distal ends (*i.e.*, the ends of the teeth).

However, as clearly shown in figure 2, the teeth 44, 46 are triangular in shape and are positioned side by side such that the plurality of teeth extend next to each other along the circumferential direction of the inside of the U-clamp 22. Accordingly, the teeth 44, 46 present a jagged edge along the circumferential direction of the U-clamp 22. Since such a jagged edge cannot fairly be described as convex, the teeth 44, 46 of JACKSON et al. do not include a convex portion. Accordingly, the JACKSON et al. device does not include convex portions, as set forth in claim 3, as amended.

Further, as clearly shown in figure 3, the teeth 44, 46 extend along the entire length of the U-clamp 22 from end to end in the longitudinal direction of the U-clamp 22. Accordingly, the sharp, jagged teeth 44, 46 are located all along the inside of the U-clamp 22 and extend from end to end of the inside of the U-clamp. Since the sharp jagged teeth 44, 46 extend from end to end of the inside of the U-clamp, the teeth 44, 46 of the JACKSON et al. device are not provided at a first end only and a second end only of the U-clamp. Accordingly, the JACKSON et al. device does not include a first convex portion provided *at a first end only* of a rod supporting portion and a second convex portion provided *at a second end only* of a rod supporting portion, as set forth in claim 3, as amended.

Thus, the JACKSON et al. patent fails to teach or suggest “convex portions at both ends of the rod supporting portion, said convex portions including a first convex portion comprising a sharp distal end provided at a first end only of the rod supporting portion and configured to be embedded into the rod, and a second convex portion comprising a sharp distal end provided at a second end only of the rod supporting portion and configured to be embedded into the rod”, as set forth in amended claim 3. Therefore, the JACKSON et al. patent fails to cure the deficiencies of the BURGESS et al. device, and even assuming, arguendo, that the teachings of BURGESS et al. and JACKSON et al. have been properly combined, Applicants’ claimed rod connector would not have resulted from the combined teachings thereof.

Further, there is nothing in the cited prior art that would lead one of ordinary skill in the art to make the modification suggested by the Examiner in the rejection of claim 3 under 35 U.S.C. § 103(a) over BURGESS et al. in view of JACKSON et al. Thus, the only reason to combine the

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teachings of BURGESS et al. and JACKSON et al. results from a review of Applicants' disclosure and the application of impermissible hindsight. Accordingly, the rejection of claim 3 under 35 U.S.C. § 103(a) over BURGESS et al. in view of JACKSON et al. is improper for all the above reasons and withdrawal thereof is respectfully requested.

Applicants submit that dependent claims 12-14, which are at least patentable due to their dependency from claim 3 for the reasons noted above, recite additional features of the invention and are also separately patentable over the prior art of record based on the additionally recited features.

Applicants submit that none of the references of record, considered alone or in any proper combination thereof, anticipate or render obvious Applicants' invention as recited in newly submitted claim 15.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection, and an early indication of the allowance of claims 3 and 12-15.

SUMMARY AND CONCLUSION

In view of the foregoing, it is submitted that the proposed amendment is proper and that none of the references of record, considered alone or in any proper combination thereof, anticipate or render obvious Applicants' invention as recited in claims 3 and 12-15. The applied references of record have been discussed and distinguished, while significant claimed features of the present invention have been pointed out.

Accordingly, consideration of the present amendment, reconsideration of the outstanding Official Action, and allowance of the present amendment and all of the claims therein are respectfully requested and now believed to be appropriate.

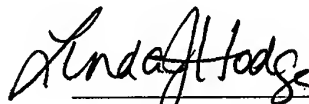
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Applicants have made a sincere effort to place the present application in condition for allowance and believe that they have now done so.

Any amendments to the claims which have been made in this amendment, which do not narrow the scope of the claims, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered cosmetic in nature, and to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should there be any questions, the Examiner is invited to contact the undersigned at the below listed number.

Respectfully submitted,
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